What is claimed is:

1. A semi-solid metal (SSM) casting process, comprising:

heating a first Al-Si hypereutectic alloy to a first temperature;

combining a second Al-Si hypereutectic alloy having a second temperature with the first Al-Si hypereutectic alloy to form a semi-solid metal;

cooling the combined first and second Al-Si hypereutectic alloy for a determined length of time, wherein the time can be zero; and,

casting the semi-solid metal.

2. An SSM casting process according to claim 1, further comprising combining a third Al-Si hypereutectic alloy with the first and second Al-Si hypereutectic alloys.

3. An SSM casting process according to claim 1, wherein each of the hypereutectic alloys has the same chemical composition.

4. An SSM casting process according to claim 1, wherein one of said hypereutectic alloys comprises Si in a range from about 14 percent to about 20 percent.

5. An SSM casting process according to claim 1, wherein one of said

hypereutectic alloys comprises Si in a range from about 16 percent to about 18 percent.

6. An SSM casting process according to claim 1, further comprising heating said first Al-Si hypereutectic alloy to liquid state.

7. An SSM casting process according to claim 1, further comprising heating said second Al-Si hypereutectic alloy.

8. An SSM casting process according to claim 1, wherein the temperature of said first Al-Si hypereutectic alloy is higher than the temperature of said second Al-Si hypereutectic alloy such that there is a difference in temperature between the first and second Al-Si hypereutectic alloys.

9. An SSM casting process according to claim 8, wherein the difference in temperature is chosen to achieve a determined rate of cooling.

10. An SSM casting process according to claim 8, wherein the temperature of said second Al-Si hypereutectic alloy is room temperature.

11. An SSM casting process according to claim 8, wherein said first and second Al-Si hypereutectic alloys have the same chemical composition.

12. An SSM casting process according to claim 8, wherein the difference in temperature of the first and second Al-Si hypereutectic alloys is chosen to achieve a faster rate of cooling of the hotter A1-Si hypereutectic alloy as compared to heating the hotter Al-Si hypereutectic alloy and allowing the hotter Al-Si hypereutectic alloy to cool independently at room temperature.

13. An SSM casting process according to claim 8, wherein the difference in temperature is chosen to achieve a cast product with primary Si particles that are more uniformly dispersed than a cast product made by a conventional SSM casting process.

14. An SSM casting process according to claim 8, wherein the difference in temperature is chosen to achieve a cast product comprising Si particles having less than an average diameter of about 60 microns.

15. An SSM casting process according to claim 8, wherein the difference in temperature is chosen to achieve a cast product comprising Si particles having less than an average diameter of about 40 microns.

16. An SSM casting process according to claim 1, wherein the first Al-Si hypereutectic alloy is heated to a temperature ranging from about 630°C to

about 800°C.

17. An SSM casting process according to claim 16, wherein the first Al-Si hypereutectic alloy is heated to about 760°C.

18. An SSM casting process according to claim 7, wherein the second Al-Si hypereutectic alloy is heated to a temperature ranging from about 22°C to about 640°C.

19. An SSM casting process according to claim 1, wherein first Al-Si hypereutectic alloy is a 390 alloy.

20. An SSM casting process according to claim 3, wherein each of the hypereutectic alloys is a 390 alloy.